

Roundup

Lyndon B. Johnson Space Center

March 2009



The Lunar Surface System

JSC Director



On the cover:

An artist's rendering of a moon base.



NASA/PHOTO iss018e028218

Photo of the month:

... and beyond.

This Expedition 18 photo shows a breathtaking view of our own "blue marble" with the moon orbiting around it.

I am impressed with and thankful for the extraordinary participation by the members of the Inclusion and Innovation Employee Engagement Teams (I & I). I want to thank each of you for your good work, excellent observations and outstanding recommendations that were recently presented to the I & I Council and Joint Leadership Team (JLT).

Working together, the JLT successfully produced the JSC Expected Behaviors, "to be open-minded, trustworthy, accountable and respectful," that have helped to make Johnson Space Center a better workplace for civil servants and contractors. Given that successful track record, I have great expectations for the impact that the I & I recommendations will have on the future of JSC.

Our future is faced with many opportunities and challenges. As I write this column, our new administrator has not yet been named, our budget is the topic of debate and we find ourselves the subject of headlines and blog commentary. Well, so be it. We can handle it. We can get through all the questions, all the unknowns and the waiting because we are dedicated to our mission and to NASA.

As we address these opportunities and challenges that face us, I know that there are times when we all get frustrated, or even angry, on occasion. But let me be very clear that no matter the level of frustration or even anger, there is absolutely no excuse for outbursts or comments, whatever the intent, which could intimidate others in the workplace.

I remind everyone, in the strongest possible terms, that we have a strict policy regarding inappropriate behavior in the workplace. It states clearly that "acts of violence, threats of violence, harassment, intimidation and other disruptive behavior involving a direct or indirect threat of physical harm are prohibited and will not be tolerated." (Policy on Workplace Violence and Threatening Behavior, JSC Announcement 07-050.) This includes "oral or written statements, gestures or expressions that communicate a direct or indirect threat of physical harm." In addition, employees "are responsible for reporting incidents involving workplace violence or threats of violence." Such behavior will be dealt with immediately.

Reporting concerns is the right thing to do. It means that a concern is raised, and that the issue will be evaluated and then addressed. Managers simply cannot tolerate inappropriate behavior by making excuses or not addressing the issues promptly and appropriately.

Together we create a safe environment.

If and when a violation occurs, JSC follows civil servant discipline, including termination, and contractor employee bans from the center, which also have the possibility of further company action. The result is that there are a handful of civil servant and contractor terminations annually.

Given the high caliber of the almost 16,000 JSC workforce, I will always be surprised, and admittedly disappointed, if even a handful of people each year appear to be unaware of our JSC Violence in the Workplace Policy (JSC Policy Directive 3000.4). Our Threat Assessment Team is convened approximately a dozen times a year to consider such potential threats. The purpose of this team is to evaluate and then make a determination as to the appropriate response.

I have heard people try to excuse poor behavior by claiming that the First Amendment guarantees the right of free speech, but I encourage them to actually read the First Amendment. It states that "Congress shall make no law abridging the freedom of speech."

That means you can't be held in violation of the law and prosecuted for something you say, but it does not mean you can't be held responsible for what you say, or that there won't be consequences for what you say.

We have an incredibly talented and professional workforce at NASA, and we all need to act accordingly in our work and our behavior. Let's maintain the highest ethics at JSC.



Mike

New **safety** goals for 2009

By **Neesha** Hosein

Safety and Mission Assurance is taking a new approach to setting safety and health goals at the Johnson Space Center. With the approval of the JSC Management Council and Center Director Mike Coats, the new goals are already set in motion.

The new safety goals for this year fall under four basic categories. The use of leadership will continue to encourage safe behaviors, safe attitudes and employee involvement. Prevention will help to improve employee participation in prevention activities. Reaction is needed to reduce mishaps and improve investigation response. Issue resolution will help assure that responses to challenges reflect a thoughtful approach to mitigating risks.



NASA PHOTO JSC2009E041361

Safety and Health Day gave JSC team members an opportunity to get together and reaffirm their commitment to safety and health goals at the center.

Leadership, or authority figures, have a specific role, and the workforce, little Ls, can be very influential, leading by example."

Loyd explained that leadership also comes in the form of working as a team to promote safety. Safety and Health Day is an example of a group activity focused on raising awareness. On Feb. 4, center management, employees, volunteers in booths and exhibits and guest speakers worked together for a successful Safety and Health Day.

Prevention

Loyd said we should think of prevention as "efforts we invest in to prevent mishaps."

Prevention must focus on training and awareness. There are several safety topics in SATERN, such as the System Safety Workshop, several flight mishap case studies and a variety of industrial safety topics that can improve our ability to identify and control hazards.

Prevention also focuses on consistent inspection efforts. Every employee can be a voice for safe practices by pointing out potential hazards.

Close Calls are another essential element of prevention. An objective for Close Calls is to continue to provide "timely and valued responses." Loyd added that "we are seeing about 95 percent of all Close Call

responses successfully accepted the first time by the submitter. Even the simplest Close Call is an opportunity to bolster trust levels with employees."

Reaction

"Ultimately our goal is to be successful at preventing injuries to personnel and damages to property. Another important aspect is to show success in how well we respond to an incident," Loyd said.

Mishaps need to be quickly reported, and injured employees must receive prompt medical care. Investigations should be performed in a judicious fashion.

"Seeking further improvement is going beyond the numbers," Loyd said. "We want to understand the causes."

Issue Resolution

Resolving issues includes looking for a positive means of solving safety challenges.

"We will always be looking for examples of positive issue resolution as an example for others to emulate," Loyd said.

Loyd cites an example from last year with the center's response to Hurricane Ike. JSC pulled together and ensured employees and property were as safe as possible. The center reopened on Sept. 22, with only minor incidents during a period of high stress.

How can you contribute to these goals?

Any employee can contribute to initiatives such as Safety and Health Day or get involved with the JSC Safety Action Team. Also, hundreds each year point out concerns and help resolve issues identified in the Close Call system. Each of us can contribute by working and behaving in a safe manner.

Loyd said one third of the significant injuries reported last year were because of slips, trips and falls. He suggested that people be more focused and take a few seconds to develop an awareness of one's surroundings.

Stress and other mental distractions can lead to injuries. Some suggestions for staying safe are:

- Be aware of surroundings and conditions while walking or reaching for things.
- Glance at the ground, as you walk, to avoid tripping hazards.
- Avoid excessive multitasking, like cell phone use or carrying multiple or bulky items while you are walking from one point to another.
- Focus on where you are and what you are doing.

In his talk on Safety and Health Day, Coats emphasized our obligation to act in a safe manner and build a strong safety culture, one that encourages the confidence in our employees that safety and health is valued.

Undergraduate Student Research Program

By Jenna Maddix

gears up for another A+ year

Among the many exceptional programs within the Johnson Space Center Education Office, one internship program really shines in the opportunities it offers to students accepted to participate. Students studying science, math and engineering can gain valuable work experience through the Undergraduate Student Research Program (USRP).

Since its inception in 2001, USRP gives students the opportunity to apply, and if chosen, intern at one of 12 NASA centers and research facilities. In 2008, the program went from awarding 100 internships to 300, making it the largest agencywide internship program today. It is currently managed by JSC and Sheri Klug, USRP project administrator. Klug is pleased by its success and how much it has grown in recent years.

"Last year, USRP nearly tripled the number of students within the program and maintained a 98 percent mentor satisfaction rate," said Klug. "The program placed 319 students to work at various NASA centers across the country. Thirty-seven of those students were placed at JSC."

One of the students chosen for JSC was Johanna Goforth from Austin, Texas. Goforth was offered a 15-week internship last spring.

"I was assigned projects equivalent to work given to other engineers with the same responsibilities and deadlines," Goforth said. "It was a hands-on approach that helped me develop my engineering skills and led to my employment as a project engineer for Lockheed Martin. I wouldn't have the job I have today if it (weren't) for USRP."

Graduating from the University of Houston—Clear Lake last May, Goforth has been with Lockheed Martin since June of 2008.

The year-round comprehensive program encourages up-and-coming



Johanna Goforth took time away from work to see the space shuttle up close at Kennedy Space Center.

NASA/PHOTO

college sophomores, juniors and seniors seeking technical degrees and enrolled full-time from any accredited college or university to apply for USRP. Once selected, students get assigned to an area with a participating NASA center for a 10- to 15-week internship.

Adam Rawlin, an engineering student from Utah State University, completed an internship with USRP last fall. When researching internships on the university's Web site, he came across the national NASA program and decided this was a perfect complement to what he's already learned in school.

"This opportunity not only let me apply knowledge I had already gained through my studies, but working at NASA gave me the chance to acquire much more on a variety of topics that I haven't explored or taken classes in yet," Rawlin said.

Rawlin felt the internship helped him prepare for a full-time job, and he doesn't regret the decision to postpone graduation by a semester to have this unique opportunity. Rawlin recently accepted an offer to continue his engineering work at JSC with the Electronic Design and Development Branch. He will continue with this new phase of his career in May.

"In 2008, our JSC Education team hit the ground running with a bigger, better internship program that supports every NASA center," said JSC Education Office Deputy Director Bob Musgrove. "With over 300 talented interns participating each year, USRP develops a valuable pool of highly qualified candidates that can fill many entry-level engineering and science positions within NASA and the greater aerospace community."

Adam Rawlin, left, monitors his team's experiment while in microgravity.



NASA/PHOTO

If you are interested in learning more about USRP, visit:
<http://education.nasa.gov/usrp>

*Those interested in mentoring a student may contact Veronica Seyl in the JSC Office of Education at **veronica.l.seyl@nasa.gov**.*

A longtime partnership continues

By Neesha Hosein

For more than three decades, the University of Houston—Clear Lake (UHCL) and Johnson Space Center have progressed in a partnership initiated and dedicated to enhance the aerospace community.

“As many of you know, NASA’s relationship with the University of Houston—Clear Lake began shortly after NASA arrived in the Houston area,” said Mike Coats, JSC director. “In 1965, when the Manned Spacecraft Center was three years old, University of Houston scientific and engineering classes were offered on site in small conference rooms.”

The relationship between the two agencies began in 1965 with a letter from Robert Gilruth, director of the space center at the time, to the president of the University of Houston, Dr. Philip G. Hoffman. Gilruth expressed the need for an education facility in Clear Lake that specifically catered to educational opportunities within the new field of space exploration.

Gilruth wrote, “As you know, our requirements for the graduate and undergraduate training have increased steadily during the past three years, and even the most liberal estimates of our center’s educational needs have proven to be conservative.”

Gilruth explained in his letter that “the availability of the best educational opportunities for our employees is vital to the accomplishment of our center’s mission objectives.”

He foresaw an expanding need for readily available educational opportunities for the more than 4,500 employees of the Manned Spacecraft Center at that time, and also for the surrounding Clear Lake community. Another factor Gilruth felt warranted the need for an educational facility was “the rapid development of a large technical and scientific community in the Clear Lake area.”

Hoffman responded to Gilruth’s letter with enthusiasm and eagerness to expand University of Houston services to the Clear Lake area.

“I appreciated your generous comments concerning the University of Houston’s contribution toward meeting the educational needs of your staff through courses on our campus and at the Manned Spacecraft Center,” Hoffman wrote in his letter. “We have been pleased to cooperate



JSC Director Mike Coats speaks about the center’s partnership with the University of Houston - Clear Lake, which began when JSC was still the Manned Spacecraft Center.

NASA/STAFFORD JSC2009E029370

with you in this way and look forward to the privilege of further expansion of our services.”

More than 30 years later, Coats and Dr. William Staples, president of UHCL, stood together to celebrate 50 years of NASA imagery at a reception held in the UHCL Atrium II in January.

“Since its opening in 1974, UHCL has awarded more than 47,000 undergraduate and graduate degrees and served as a major community partner,” Coats said. “I would like to congratulate Dr. Staples and his staff for being awarded with the 2008 Community Engagement Classification by The Carnegie Foundation for the Advancement of Teaching—an honor that was given to only 119 colleges and universities across the country.”

Staples also congratulated the space agency on its 50th anniversary and the 10th anniversary of the International Space Station. He praised the Space Act Agreement between JSC and UHCL, which he said “simply continues that original partnership.”

Coats announced the new Space Act Agreement between UHCL and JSC. It highlights the efforts for Cooperative Academic Activities and Community and Education Outreach.

“JSC and UHCL wish to provide for new opportunities to collaborate on programs that enrich students’ experience and keep space exploration in the forefront of the minds as they define their career goals,” Coats said. “We will work together on events and programs that build awareness about space exploration, emphasize the value of creativity in arts and science, engineering, computer sciences and promote career opportunities.”

Through this outreach, Coats said that JSC will be able to disseminate information to the UHCL community about NASA’s mission, vision, goals and more. UHCL will be able to enrich the experience of their students, faculty and alumni, and gain better insight into the academic needs of the aerospace industry.

The University of Houston - Clear Lake and JSC celebrated 50 years of NASA imagery with an exhibit in the university’s atrium.



NASA/STAFFORD JSC2009E029352

Moving forward Creating a livable lunar

As the Constellation Program continues to develop, getting to the moon is only one piece of the puzzle. NASA's Lunar Architecture Team is developing the systems and processes to make sure that once we get there, we can stay for a while.

TAKING THE NEXT STEP

Almost 40 years ago, the first American stepped on the moon and left an indelible imprint, not only on the lunar surface, but also on the imagination of an entire generation. Now, that same generation, inspired so many years ago, is taking the next step.

NASA plans to establish a human outpost on the moon through a series of lunar missions slated to begin in 2020. With that goal in mind, NASA's Lunar Surface Systems Office was formed in September of 2007 and tasked with the development of the systems and capabilities necessary to sustain extended stays on the lunar surface. The office is still in the early stages of the process, but work is already well under way.

"We're not trying to define the end point or the baseline as of yet," said Chris Culbert, Lunar Surface Systems Project Office manager. "We're really trying to get our arms around the breadth of the opportunity. What kind of things could you do? What combinations of things make more sense? How do they trade against each other? Which characteristics emerge as better ideas? We are not going deep, we are going broad."

Still two to three years away from the requirements process, the team of engineers is working with commercial and international partners to define what sustaining

life on the moon means, and conceptualize and compare ideas for how it will look.

With so many potential parties represented, ideas abound about exactly what the lunar structure should look like and how it should function.

"As consensus emerges, hopefully everybody will get at least some of what they want," Culbert said.

LIVING OFF THE LAND

With new exploration plans came an unspoken series of goals for lunar architecture.

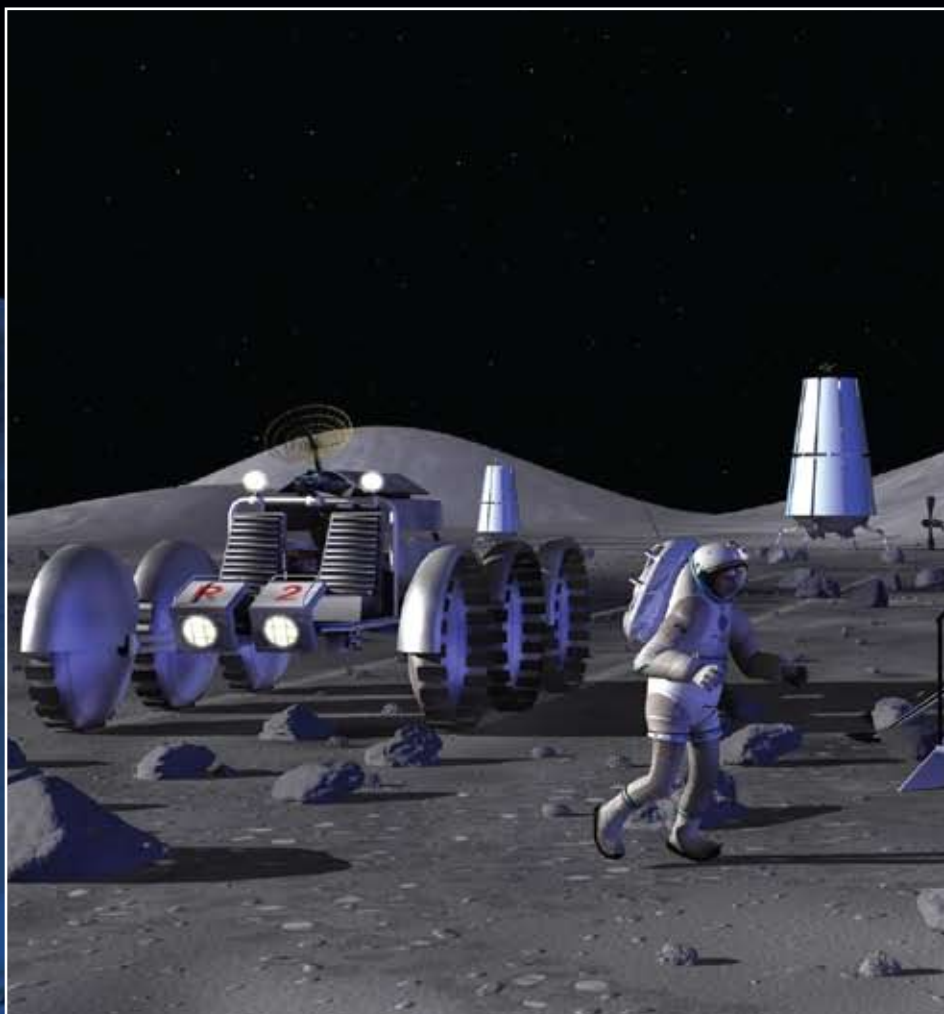
Returning to the moon and eventually moving on to Mars means developing the capabilities to sustain human life for large portions of time away from Mother Earth.

"Long-term human presence throughout the solar system requires us to solve a variety of technical issues that we don't have a lot of experience with (yet)," Culbert said.

While the Apollo missions taught us a lot, there is still much left to learn—taking into consideration the fact that all our lunar surface experience comes from the equatorial regions. While the moon is a fairly homogeneous environment, the polar regions, where future lunar habitats will most likely be established, present many unique challenges.

advantage of what the moon has to offer.

With that in mind, the Lunar Reconnaissance Orbiter (LRO) is scheduled to launch this spring. One of its primary objectives is to determine the usable resources present on the moon. It will also search for safe landing sites, characterize the radiation environment and demonstrate



A large part of sustaining life for long periods of time—on the moon or anywhere—means learning how to make use of the environment around you. Some of the early work in lunar architecture is concerned with taking

new technology.

"That's a biggie to us," Culbert said. "The amount of data we get off the moon from LRO alone will be of a magnitude greater than anything we have to date. It's a mission specifically designed

lunar home

By Bret Newcomb

to gather data about the lunar environment, which will be very valuable to us."

In addition to NASA's studies, 14 companies have signed up to compete in the Google Lunar X Prize, an international competition challenging private companies to develop a robot that can safely land on the moon, travel 500 meters over the lunar surface

CONSIDERING THE BASICS

For now, though, the sky's the limit as far as conceptualizing the structure that will sustain human life on the moon is concerned.

"We're in the idea stage," Culbert reiterated. "Our job is to come up with lots of ideas and lots of scenarios. You put all these ideas out there and then wait and see where the discussion with

habitation, communication, power, safety and efficiency.

LOCATION, LOCATION, LOCATION

As NASA weighs the different variables and challenges of living on the moon, one of the most obvious questions is: Where do you build? With the Apollo moon landings, the equatorial areas of the lunar surface were chosen for

ease of landing. Those stays on the moon's surface were relatively short in comparison to what Constellation is planning. Therefore, availability of light was not an issue.

This time around, however, the availability of light is a primary concern. Some of the outpost's energy will most likely come from the sun.

That's one reason the polar regions—which spend 80 to 90 percent of the time in the sunlight—are more habitable than other areas.

Of course, the data collected by the LRO will give the team more information

with which to make their outpost location determination.

THE DUST DILEMMA

Though the Apollo astronauts didn't stay on the moon long enough for lunar dust to become

a serious issue, their experiences put lunar dust near the top of the list of concerns for today's team. The lunar surface is blanketed with a thick layer of the fine particulate, and it sticks to everything it comes into contact with.

"We plan to stay long enough this time that we will need to deal with the dust in a more effective way," Culbert said.

Kent Joosten, Constellation's deputy chief architect, compared the lunar soil to broken glass.

"It's very abrasive," Joosten said. "It doesn't move on its own, but when it gets somewhere ... it's going to do bad things."

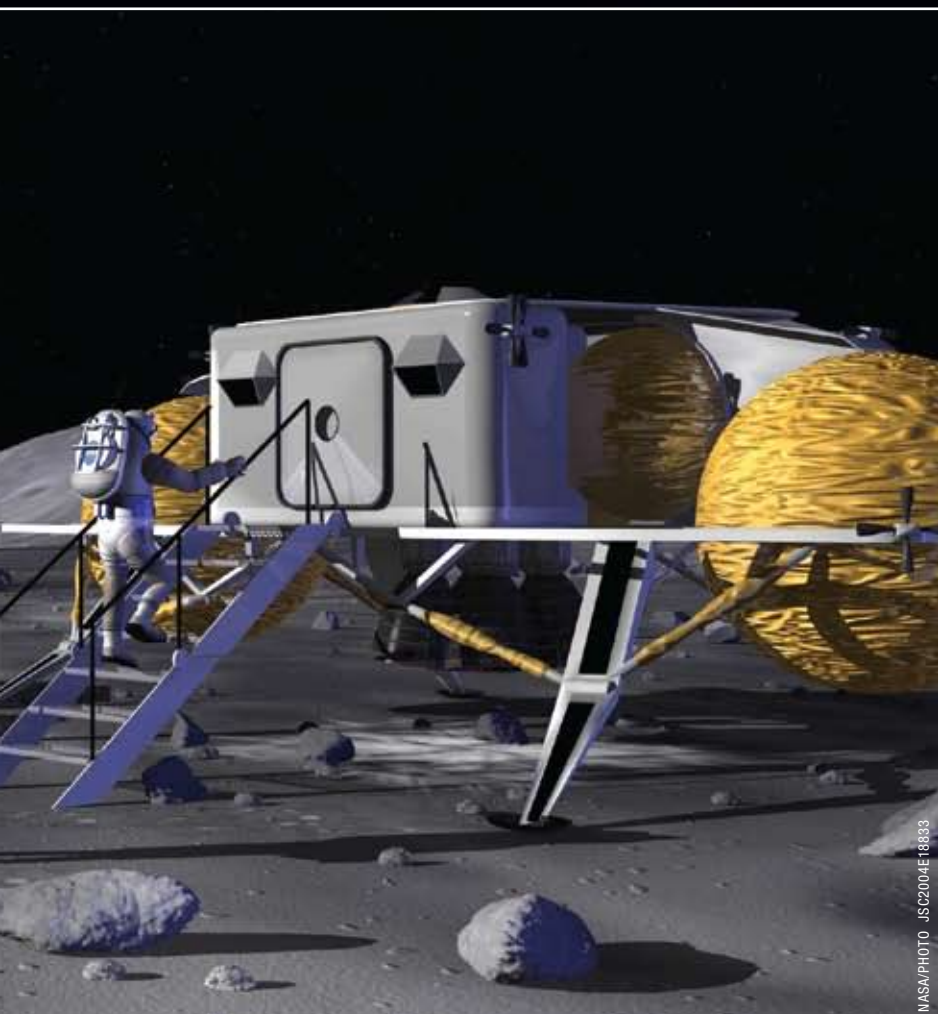
In an effort to avoid those bad things, engineers are carefully considering every area of the lunar outpost that would be exposed to the dust.

According to Culbert, they have to consider the effect of lunar dust on all the equipment and structures they plan to place on the moon—everything from the wheels on rovers to the habitats in which people will live. Engineers are looking into ways to protect bearings, seals and electrical components to fuel so that dust doesn't affect them, yet they can still be maintained.

The dust causes not only mechanical issues, but health concerns as well.

Unlike typical Earth dust, lunar dust has been bombarded over millions and billions of years by meteorites, solar winds and other hostile galactic phenomena, which have given the particulate its shape and abrasive properties.

One of the early solutions to the dust problem was the development of suit ports. During the Apollo missions, astronauts put their suits on and took them off inside the Lunar Excursion Module.



NASA/PHOTO JSC2004E18833

and send images and data back to Earth.

After the various findings are studied, the development window will be narrowed to the more practical aspects of lunar habitation.

partners and the political process takes us."

Even with the ability to generate limitless ideas, there are certain constant requirements to consider, regardless of the final plans for the structure. Namely: mobility,

"... We leave as we came and, God willing, as we shall return—with peace and hope for all mankind."

**- Eugene A. Cernan, Apollo 17 Commander,
December 14, 1972**

Consequently, all of the dust on their suits came back inside with them. The Lunar Architecture Team is exploring the idea of leaving the suits, along with the harmful dust, outside. Astronauts can climb into the suits through a suit port and only bring suits inside the habitation for maintenance.

RADIATION

Of the many considerations involved in the early stages of developing lunar architecture, how to protect against high levels of radiation present on the moon, is among the most important. Without an atmosphere to protect them, those on the moon's surface are left exposed to extreme levels of radiation resulting from massive amounts of protons and electrons produced by the sun.

On Earth, and even in low-Earth orbit, radiation is not something that warrants much consideration. When humans start venturing further into space, that changes.

"Most people don't understand it very well," Culbert said.

"Radiation is not something we deal with on Earth very much. Our atmosphere and the Earth's environment protect us from that, and when we start putting people outside of those environments, outside of the atmosphere, you have to ask: How do we protect humans from those things? And how much exposure is okay?"

Studies are currently under way to determine the best method of protection against the radiation. In this, two types of exposure are being addressed: The constant amount of radiation present known as background radiation; and the

more dangerous radiation caused by cosmic events such as sun flares and coronal mass ejections. Researchers are conceptualizing several options to protect against both types. However, much like the rest of lunar architecture, these studies are still in the early phases.

THERMAL CONDITIONS

Like those of deserts on Earth, temperatures on the moon fluctuate drastically depending on the presence or absence of sunlight, and any habitat designed

for the lunar surface will have to accommodate the swings.

"Thermal management is likely to be an interesting discussion and may require a different approach than what we use today," Culbert said.

In low-Earth orbit, temperature management is relatively easy to handle due to exact periods of light and dark. On the lunar surface, this isn't the case. At the polar regions of the moon, the surface systems and those inhabiting them will experience extended periods of darkness. The duration of these dark periods will change based upon location and terrain features.

"Right now, almost all our thermal systems are on a well-defined schedule," Culbert said. "The space station goes around the Earth, in and out of the sun

on a well-defined schedule. Same thing for the Apollo crews. We may face some interesting thermal conditions that we'll have to design systems to handle."

REALIZING A DREAM

The only thing greater than the challenges faced is the desire of the team to overcome them. For many in and around the agency, the moon landings of Apollo were the inspiration of a career in space and served as the overture of their lives' work. Being a part of going back is the completion of a dream 40 years in the making.

"When I was a little kid, I got to see the people land on the moon. That was pretty exciting stuff," Culbert said. "And to think that we get to be the guys who get to do it again ... that's cool."



An artist's rendering of the Lunar Reconnaissance Orbiter.

MASA/PHOTO

Putting money where their mouths are:

The Thermal Design Branch gets green

By Brandi Dean

A few years ago, Stephen Miller and Mark Flahaut started taking a closer look at their electric bill.

Big deal, right? Who didn't take a closer look at their electricity bill over the last few years as gas prices rose? But what makes Miller and Flahaut different from most people studying their electricity usage is that they have prior experience in the subject.

"Energy is what we do here in ES3," said Miller, an engineer in the Thermal Design Branch of the Structural Engineering Division. "I decided to go off and figure out a way I can compare how my house is using energy."

He was joined by another passive thermal engineer, Flahaut, and before they knew it, the branch was competing to see who could make their home the most energy efficient. Now, their closer look has spread to the entire Engineering Directorate.

"I think we're starting to take a little bit of ownership of any sort of culture change because we do passive thermal control in our branch," said Chris Madden, deputy chief of the Thermal Design Branch. "That's what we do for spacecraft, and we think we need to start being leaders in doing this for our everyday life."

The aim, of course, is to see how much energy the team can save by actively trying to do so. Radical measures, Madden said, are encouraged. The Thermal Design Branch team knows from experience that such measures work and can give you the hard data to prove they're worth it.

In the quest to make their homes energy efficient, Miller installed a radiant barrier in his attic. Flahaut replaced his aging air conditioner, put in new thermally efficient windows and replaced 40 of the incandescent light bulbs with the compact fluorescent version, in addition to installing his own radiant barrier and an additional eight inches of insulation on his attic floor.

Miller spent about \$250 on supplies for his radiant barrier—four rolls of barrier and one staple gun—and installed it himself over the course of two days in December of 2005. The following summer, his electricity bill showed that he used about six percent less kilowatt hours than he had in previous summers, with a correction for the difference in average temperatures included in the calculation. Based on that, he determined that he saved \$119 during that first summer alone. By the next summer, the expense was paid off. This past summer, the difference was pure savings.

Flahaut put a bit more money

into his changes. His home is smaller than Miller's, so the radiant barrier only cost about \$160. But because his home was old and there were problems with his ducts, he bought an entire new heating and cooling system, including an air conditioner, furnace and new duct work. The total cost was \$9,000, but it might have been more like \$5,000 to \$6,000 had he bought just an air conditioner.

The thermal windows added another \$7,000 to his work. The cost of compact fluorescent light bulbs vary, but you can get a pack of six for about \$20. That adds up to a hefty price tag, but so far he's not regretting it. Since he began the improvements in July of 2005, he's saved about \$4,500 on his electricity bill.

The biggest change, Flahaut said, came from the new air conditioner, which, with his other changes, cut his energy usage from about 17,000 kilowatt hours per year to about 10,000. But if you're looking for something smaller that still packs a punch, he suggested switching to compact fluorescent light bulbs. He did warn, however, that they weren't perfect—he's had to replace three so far, they're not as bright as normal light bulbs and they contain mercury, which can mean serious problems if they break.

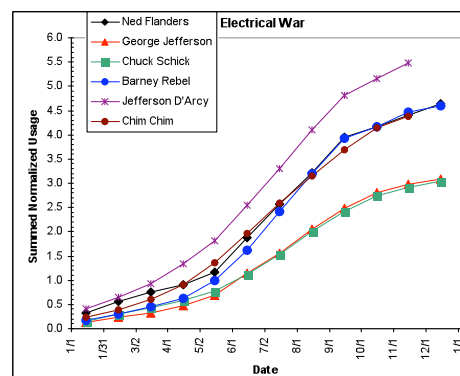
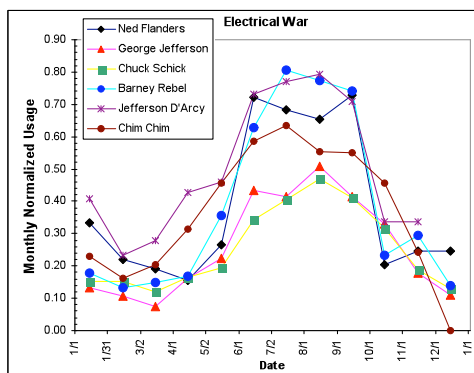
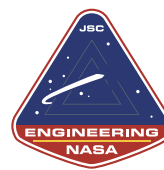
Obviously, the financial savings are an attractive incentive in making such changes, but Flahaut, Miller and Madden all say that's not the only reason they've made them. Doing their part to protect the environment is just as big a factor in their decisions.

"We, as Americans, consume the most energy on a per capita basis," Flahaut said. "We have to do more to be responsible with our energy use. And we might as well save money in the process, too."

EA Electric War

• 2008 ES Electric War Results

- As example
- (although we didn't normalize by days since we all started at the same time)
- Chuck Schick was the winner!



Spotlight

Roland Carmen



Q: Your work title and company?

A: Clean room lab technician, Jacobs Technology.

Q: How long have you been with NASA?

A: From 1979 to 2003 and from August 2008 to present.

Q: What kind of hobbies or interesting things do you do away from the office?

A: Painting, drawing, golf, basketball, playing the piano and working out at the Gilruth.

Q: What is your idea of a perfect vacation?

A: Lying out on a tropical beach with white sand and clear blue water.

Q: What is the last good book or article you read?

A: "Makes Me Wanna Holler" by Nathan McCall.

Q: What is the best movie in your collection?

A: "To Kill a Mockingbird."

Q: What is the coolest part about your job?

A: Having worked on something that will go out in space.

Q: What does Johnson Space Center mean to you?

A: It has become part of my extended family due to the years spent here.

Q: What do you look forward to at NASA?

A: The latest NASA project that will change the conventional way of life.

Q: What would people be surprised to know about you?

A: My age.

Q: What is your best memory at JSC?

A: All the different people I have had the pleasure of working with.

Q: What is your favorite quote?

A: "When you fail to plan, plan on failing."

Q: Who are your heroes?

A: Anyone who brings positivity to their neighbor.

WANTED!

Do you know a fellow JSC team member who does something extraordinary on or off the job? Whether it's a unique skill, interesting work, special professional accomplishment, remarkable second career, hobby or volunteerism, your nominee may deserve the spotlight!

The Roundup shines the light on one person each month who is chosen from a cross section of the JSC workforce. To suggest a "Spotlight" candidate, send your nomination to the JSC Roundup Office mailbox at jsc-roundup@mail.nasa.gov with the person's name, title and a brief description of why he/she should be considered.

Center Scoop

WE WANT YOU TO MENTOR A JOHNSON SPACE CENTER INTERN

The JSC Office of Education is proud to announce the launch of its Web-based intern system, Connect. This new system streamlines and improves the placement of student programs from multiple agency and center internship programs into every directorate at JSC. Connect provides prospective mentors from across JSC with a simple and efficient way of requesting students to support projects in their organization throughout the year. The new Connect system makes it easier than ever to match great students with great projects.

Some benefits of being a mentor include:

- Develop management and leadership skills
- Get help with your project and workload
- Train your team's next new hire

Education is now accepting project requests for summer and fall 2009. To request an intern, visit: <https://www.epo.usra.edu/education/connect/>.

For additional information, contact Cornelius Johnson at 281-483-3026.

AMERICA'S PASTIME MEETS THE FUTURE

The Houston Astros came to JSC as part of their community relations campaign prior to the start of the 2009 baseball season. The Astros were received by a packed house of fans in the Building 3 Starport Café on Jan. 14. Among the notable players there to sign autographs and take pictures were Chris Sampson, Darin Erstad, Galveston native Brandon Backe and Manager Cecil Cooper. Other Astros personnel on hand were announcer Brett Dolan and Assistant General Manager of Scouting Bobby Heck.



Astros players Brandon Backe and Chris Sampson (foreground) sign autographs for JSC team members.



Connect is a great way to recruit students for future work at NASA.

SAFETY AND HEALTH DAY

On Feb. 4, JSC team members got together to reaffirm their commitment to safety and health.

The Safety and Health Day committee planned a half-day event that included speakers to educate employees on the critical need to assimilate safety and health into our professional and personal lives. The day also provided suggested programs on important self-help issues, such as how to increase our knowledge of basic nutrition and begin an exercise routine through Exploration Wellness. In addition, informative and educational venue activities (EVAs) educated the workforce on timely and useful topics, including lessons learned from Hurricane Ike, ergonomics, safety awareness, stress reduction, hazardous wastes and recycling.

This year's theme, Mission: Continues, reminded employees that as we embark on new programs, it is imperative that we include safety and health in our strategy.



Safety and Health Day allowed employees to get interactive in learning about their own health and wellness.

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Coats in the trenches

On Feb. 13, Johnson Space Center Director Mike Coats and members of his senior staff took a tour of Wyle Labs to see the cutting-edge technology in development. This technology is being perfected so that crews experience sustained health and wellness in space.

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(top left) Associate Director (Management) Melanie Saunders, Deputy Director Ellen Ochoa and JSC Director Mike Coats (clockwise from left) look on as Senior Scientist Victor Hurst shows the dynamics of the Medical Simulation Laboratory, which is a suite of three rooms that consist of multiple spaceflight-related resources that allow for the development, testing and validation of training.

(above) Scott Flechsig, section manager for Design Engineering and Fabrication for the Flight Hardware Department, explains the Total Organic Carbon Analyzer, which is used to determine if the water produced on the International Space Station is safe for consumption.

(left) Coats and Ochoa look on as David Chesney, electrical engineer, demonstrates the Treadmill 2, a second-generation rack-mounted treadmill, which provides a countermeasure to effectively maintain long-term crew health.